

## **REMARKS**

Applicant respectfully requests reconsideration and allowance of all pending claims in view of the above-amendments and the following remarks.

### **I. DRAWINGS**

Figure 5 is objected to for not including text in the blocks of the flow chart. Accordingly, Figure 5 is amended to include text from the specification.

### **II. ABSTRACT**

The abstract is objected to because of using the term “said”. A replacement Abstract is enclosed, which is amended to replace the term “said” with the term “the”, as suggested in the Office Action.

### **III. CLAIM REJECTIONS – 35 U.S.C. §102**

Claims 15-19, 21-25, 27-28 are rejected under 35 U.S.C. §102 (b) as being anticipated by Eilts et al., U.S. Publication No. 2003/0108127.

#### **A. Claim Amendments**

The Applicant proposes an amended set of claims, where amended independent claims 15, 27 and 28 are **novel and non-obvious in view of the cited references**.

For example, The amended claim 15 now specifies that the “first estimate  $[h_1(n)]$  of the said propagation channel” is obtained “by time/frequency interpolation on the said reference pilot(s)”.

This characteristic is described in the specification on page 3, lines 13-16, page 11, line 25 to page 12, line 7, and page 14, lines 15-18, for example.

**B. Eilts**

Indeed, this amended claim 15 claim differs from **Eilts** in that the first channel estimation is not based on a time / frequency interpolation on the reference pilots but is obtained by an IFFT.

Moreover, the amended claim 15 now specifies that the “correction step includes a step to calculate an amplitude and phase error vector for each of the said reference pilots” (this characteristic was previously in the original claim 16, which is cancelled in the presented amended set of claims).

The **Eilts** document does not disclose or suggest a correction step of the reference pilots in phase and amplitude. Indeed, this document concerns only phase noise.

The part of this document cited by the Examiner (page 3, paragraphs 42 and 43) only describes an estimation of the phase difference between the current channel impulse response and the average impulse response (after the IFFT), in order to correct his phase error. No amplitude correction is disclosed or suggested in this document.

The characteristics of amended claim 15 do not appear in any of the embodiments of **Eilts**, and **Eilts** does not suggest a modification that would lead a person of ordinary skill in the art to the claimed characteristics or provide such a person with any reason to try such a modification.

Thus, the amended claim 15 (and similarly claims 27 and 28) is novel and non-obvious in view of **Eilts**.

**IV. CLAIM REJECTIONS – 35 U.S.C. §103**

**A. Claim 20**

Claim 20 is rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Eilts et al., U.S. Publication No. 2003/0108127 in further view of Balaban et al., U.S. Patent No. 6,369,857.

Claim 20 of the present application discloses that “pilots with an amplitude less than a first predetermined minimum average threshold and/or greater than a second predetermined maximum average threshold are rejected” and are not taken into account for “the calculation step for an amplitude and phase error vector”.

**Balaban**, especially the part cited by the Examiner (col.8, lines 43-52), describes a means for testing a signal, able to confirm the presence of a digital signal, by comparing the amplitude of the signal-to-noise ratio to a predetermined threshold. If the amplitude is greater than this threshold, then the digital signal is considered as a valid signal in a digital format.

**Balaban** does not disclose or suggest comparing the amplitude of the pilots themselves to a threshold.

Moreover, as explained before, as claim 15 is not anticipated by **Eilts**, the combination of **Eilts** and **Balaban** is not relevant, and claim 20 is novel and non-obvious.

**B. Claim 26**

Claim 26 is rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Eilts et al., U.S. Publication No. 2003/0108127 in further view of Fujii et al., European Patent No. 1,542,384.

Claim 26 of the present application discloses that the process of claim 15 is used “for correction of at least one phase and/or amplitude error common to two cells in a same OFDM type symbol”.

**Fujii**, especially the part cited by the Examiner (page 7, lines 1-7), describes the possible presence of interferences coming from other OFDM cells, for example in OFDM-CDMA transmission, said interferences influencing the signal and getting more difficult a precise phase error detection.

This document does not disclose or suggest a phase error detection common to two cells, but only points out the presence of interferences between many cells.

Moreover, as explained before, as claim 15 is not anticipated by **Eilts**, the combination of **Eilts** and **Fujii** is not relevant and claim 26 is novel and non-obvious.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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